performing an ashing process on said resist mask using oxygen gas plasma under an atmospheric pressure from 0.01 Torr to 30.0 Torr; and

D1 cd

filling up said wiring gutters or said via-holes with conductive material.

Paragraph beginning at page 5 line 24.

The silica based insulating film between layers must have a dielectric constant being equal to or less than 3.5. An organic SOG and inorganic SOG can be listed as a coating liquid for forming such a film. As such the organic SOG, it is appropriate to have a content of carbon lying from 5 % by weight to 25 % by atomic weight, for example, and more preferably, the content of carbon is from 8 % by weight to 20 % by atomic weight.

D2

Paragraph beginning at page 13 line 3.

Also, with a method for forming the silica based insulating film between layers, for example, the coating liquid is applied or coated on a surface of a substrate, such as, semiconductor substrate, a glass substrate, a metal substrate, a ceramic substrate or the like, by means of, such as, a spinner method, a roll coating method, a dip and pull up method, a spray method, a screen printing method, a brush painting method, and so on, and is is dried by evaporation of the solvent so as to form the coated film therewith. Then, the insulating film is formed by baking it in a temperature from 250 °C to 500 °C.

D3

Paragraph beginning at page 20 line 15.

As is fully described in the above, according to the present invention, in the method for forming a multi-layer circuit board, by etching via-holes or wiring gutters through a resist mask on a silica based insulating film between layers having a dielectric constant being equal to or less than 3.5, and filling up said wiring gutters or said via-holes with conductive material by using the damascene method, wherein the ashing process is performed on said resist mask with oxygen gas plasma under an atmospheric pressure from 0.01 Torr to 30.0 Torr (more preferably, from 0.01 Torr to 1.2 Torr), the bonding is hardly cut between Si and organic radical or between Si and hydrogen radical, constituting the insulating film between layers of silica, thereby maintaining a low in the dielectric constant thereof.

D4